

ABSTRACT OF THE DISCLOSURE

An apparatus for reducing the aerodynamic base drag of a bluff body having a leading end, a trailing end, a top surface, opposing left and right side surfaces, and a base surface at the trailing end substantially normal to a longitudinal centerline of the bluff body, with the base surface joined (1) to the left side surface at a left trailing edge, (2) to the right side surface at a right trailing edge, and (3) to the top surface at a top trailing edge. The apparatus includes left and right vertical boattail plates which are orthogonally attached to the base surface of the bluff body and inwardly offset from the left and right trailing edges, respectively. This produces left and right vertical channels which generate, in a flowstream substantially parallel to the longitudinal centerline, respective left and right vertically-aligned vortical structures, with the left and right vertical boattail plates each having a plate width defined by a rear edge of the plate spaced from the base surface. Each plate also has a peak plate width at a location between top and bottom ends of the plate corresponding to a peak vortex of the respective vertically-aligned vortical structures.